

=> fil reg; d stat que 112; fil cap1; d que nos 123; d que nos 124; d que nos 125; d que nos 138; d que nos 143

FILE 'REGISTRY' ENTERED AT 14:57:44 ON 13 AUG 2002

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STRUCTURE FILE UPDATES: 12 AUG 2002 HIGHEST RN 443729-39-3

DICTIONARY FILE UPDATES: 12 AUG 2002 HIGHEST RN 443729-39-3

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES
for more information. See STNote 27, Searching Properties in the CAS
Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

```

L8          STR
          15
          G3
Hy Ak O      Ak N      O Ak      Ak @14
4 5 @6      7 @8      @12 13
          G3 Si G4
          9 @10 11

          19          22          26
          H          G3          H
          G1 CH2 G5 CH2 G2
          1 2 28 29 3

H Si G4      H Si G4      G3 Si G4
16 @17 13    20 @21 23    24 @25 27
```

AK = alkyl

Hg = heterocycle

VAR G1=6/NH/X/8

VAR G2=10/17/21/25

VAR G3=12/14/X

VAR G4=10/X

REL G1-G4--> H.

NAME ATTRIBUTES:

CONNECT IS E1 E2 A.

CONNECT IS E1 R2 AT 1.

CONNECT IS E1 E2 AT 1.

DEFAULT MLEVEL IS ATOM

GGAT IF 100 SAT AT 4

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS E1 C AT 1

NAME ATTRIBUTES:

NAME IS E1 E2 A.

NAME IS E1 E2 A.

NAME IS E1 E2 A.

FILE 'CAPLUS' ENTERED AT 14:57:44 ON 13 AUG 2002
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FILE COVERS 1997 - 13 Aug 2002 VOL 137 ISS 7
FILE LAST UPDATED: 12 Aug 2002 (20020812/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (URL field) in this file.

L8 STR
L14 SCR 2026 AND 1006
L12 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12 11405 SEA FILE=CAPLUS ABB=ON L12
L15 2317 SEA FILE=CAPLUS ABB=ON SOLID SUPPORT#/OBI
L17 6566 SEA FILE=CAPLUS ABB=ON MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
L14 20 SEA FILE=CAPLUS ABB=ON L13(L)L15
L20 17 SEA FILE=CAPLUS ABB=ON L13(L)L17
L23 4 SEA FILE=CAPLUS ABB=ON (L19 AND L17) OR (L20 AND L15)

L8 STR
L14 SCR 2026 AND 1006
L12 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
L12 11405 SEA FILE=CAPLUS ABB=ON L12
L15 2317 SEA FILE=CAPLUS ABB=ON SOLID SUPPORT#/OBI
L17 6566 SEA FILE=CAPLUS ABB=ON MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
L14 20 SEA FILE=CAPLUS ABB=ON L13(L)L15
L20 17 SEA FILE=CAPLUS ABB=ON L13(L)L17
L23 4 SEA FILE=CAPLUS ABB=ON (L19 AND L17) OR (L20 AND L15) -Section note 9 =

Biobehavioral Methods

File 41.57 evaluated and added

L8 STE
 L10 SCR 2026 AND 1006
 L12 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
 L13 21405 SEA FILE=CAPLUS ABB=CN L12
 L25 737 SEA FILE=CAPLUS ABB=CN L13(L)ANST/RL
 L27 249408 SEA FILE=CAPLUS ABB=CN MODIF?/OBI
 L31 195092 SEA FILE=CAPLUS ABB=CN DNA+OLD/CT
 L32 144371 SEA FILE=CAPLUS ABB=CN RNA+OLD/CT
 L33 96727 SEA FILE=CAPLUS ABB=CN PEPTIDES/CT
 L34 86247 SEA FILE=CAPLUS ABB=CN POLYSACCHARIDES+OLD/CT
 L35 121181 SEA FILE=CAPLUS ABB=CN LIPIDS+OLD/CT
 L36 13416 SEA FILE=CAPLUS ABB=CN COVALENT?/OBI
 L37 5586 SEA FILE=CAPLUS ABB=CN (L31 OR L32 OR L33 OR L34 OR L35) (L27 OR L36)
 L38 9 SEA FILE=CAPLUS ABB=CN L37 AND L25

L8 STE
 L10 SCR 2026 AND 1006
 L12 8068 SEA FILE=REGISTRY SSS FUL L8 AND L10
 L13 21405 SEA FILE=CAPLUS ABB=CN L12
 L15 2317 SEA FILE=CAPLUS ABB=CN SOLID SUPPORT#/OBI
 L16 56610 SEA FILE=CAPLUS ABB=CN IMMOBILI?/OBI
 L17 6566 SEA FILE=CAPLUS ABB=CN MICROARRAY?/OBI OR MICRO(L)ARRAY?/OBI
 L18 541 SEA FILE=CAPLUS ABB=CN L13(L) (L15 OR L16 OR L17)
 L19 737 SEA FILE=CAPLUS ABB=CN L13(L)ANST/RL
 L39 1 SEA FILE=REGISTRY ABB=CN CYTOSINE/CN
 L40 1 SEA FILE=REGISTRY ABB=CN GUANINE/CN
 L41 10251 SEA FILE=CAPLUS ABB=CN L39 OR CYTOSINE/OBI
 L42 37497 SEA FILE=CAPLUS ABB=CN L40 OR GUANINE/OBI
 L43 8 SEA FILE=CAPLUS ABB=CN (L18 OR L25) AND (L41 OR L42)

= > s 123 or 124 or 125 or 138 or 143
 L45 41 123 OR 124 OR 125 OR 138 OR 143

= > d ibib abs hitstr 145 1-41; fil lbr

14 INVENTOR(S): HARRIS, MICHAEL J.; CHANDURA, AMY L.; CHANDURA, RICHARD W.
 ATTORNEY: WILLIAMSON, KENNETH A.
 CURRENT NUMBER: 14-000004
 TITLE: METHOD FOR IDENTIFYING AND QUANTIFYING NUCLEIC ACID SEQUENCES
 IN A SAMPLE OF DNA OR RNA
 OR
 OR
 INVENTOR(S): HARRIS, MICHAEL J.; CHANDURA, AMY L.; CHANDURA, RICHARD W.
 PATENT ASSIGNEE: WILLIAMSON, KENNETH A.
 ADDRESS: WILLIAMSON, KENNETH A.
 CURRENT NUMBER: 14-000004

AB The present invention relates, in general, to a method of attaching a biopolymer to a solid support and, in particular, to a method of attaching a nucleic acid to a glass surface, and to reagents suitable for use in such a method. The invention further relates to the product produced by the present method and to kits comprising same. Clean microscope slides were silanized with N-(3-diethoxymethylsilylpropyl)bromoacetamide (prepn. given). Four oligonucleotides differing in only the nucleotide at their (free) 3'-ends were arrayed. When the array was treated with polymerase and fluoresceinated terminator, specific labeling of only the primer with perfect complementarity to the template was obsd.

BT 3179-76-8, (3-Aminopropyl)methyldiethoxysilane 18306-79-1
 , 3-Aminopropyldimethylethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

method of attaching biopolymers to **solid supports**

using bromoacetamidossilanes to functionalize supports)

EN 3179-76-8 CAPLUS

CN 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH₂)₃ NH₂

OEt

EN 18306-79-1 CAPLUS

CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH₂)₃ NH₂

Me

BT 256352-86-0P 256352-87-1P 256352-89-3P
 437610-24-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

method of attaching biopolymers to **solid supports**

using bromoacetamidossilanes to functionalize supports)

EN 256352-86-0P CAPLUS

CN 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

Et

Me Si (CH₂)₃ NH₂ Et

Et

OEt O

Me Si (CH₂)₃ NH C CH₂Br

Me

RN 256352-89-3 CAPLUS

CN 1-Butanamine, 4-[methoxybis(1-methylethyl)silyl]- (9CI) (CA INDEX NAME)

OMe

i-Pr Si (CH₂)₄ NH₂

i-Pr

RN 437610-24-7 CAPLUS

CN Acetamide, 2-bromo-N-[4-[methoxybis(1-methylethyl)silyl]butyl]- (9CI) (CA INDEX NAME)

OMe O

i-Pr Si (CH₂)₄ NH C CH₂Br

i-Pr

L45 ANSWER 2 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:172444 CAPLUS

DOCUMENT NUMBER: 136:229021

TITLE: High-density functional slide for biomolecule immobilization and preparation method thereof for use in high-efficiency bio-chip/microarray

INVENTOR(S): Ho, Chih-wei; Chow, Zu-sho; Jan, Bor-ian; Tsao, Jia-huey; Pan, Tho-chi; Kuo, Wen-hsun; Chang, Yao-sung; Wu, Chen-tao; Liu, Yu-ching

PATENT ASSIGNEE(S): Taiwan

SOURCE: U.S. Pat. Appl. Publ., 1999.

TITLE: "TEXT"

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY APP. NOS. (S): 1

PATENT INFORMATION:

PATENT NO.	FINI DATE	APPLICATION NO.	DATE
U.S. Pat. 6,000,000	10/1/00	U.S. Pat. 6,000,000	10/1/00
U.S. Pat. 6,000,000	10/1/00	U.S. Pat. 6,000,000	10/1/00
U.S. Pat. 6,000,000	10/1/00	U.S. Pat. 6,000,000	10/1/00

AB The invention is directed to a high-density functional slide for biomolecule immobilization and preparation method thereof for use in high-efficiency bio-chip/microarray.

1. A high-density functional slide for biomolecule immobilization and preparation method thereof for use in high-efficiency bio-chip/microarray, comprising: a substrate; a functional layer formed on the substrate; and a biomolecule immobilized on the functional layer.

form a polymeric soln.; (b) adding the monomer of allyl alc. and acrolein to the polymeric soln. under anaerobic conditions; and (c) adding ceric ammonium nitrate to the soln. for catalysis. The polyvinylalc.-based polyaldehyde graft copolymer comprises 2-10 (w/v) polyvinylalc., 2-10 (vol./vol.) monomer of acrolein and 1-5 (vol./vol.) monomer of allyl alc.

17 919-30-2, Aminopropyltriethoxysilane

RL: DEW (Device component use); USES (Uses)

(APTES, sol-gel; high-d. functional slide for biomol. immobilization and prepn. method thereof for high-efficiency bio-chip/
microarray)

EN 919-30-2 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OE1

EtO Si (CH₂)₃ NH₂

OE1

L41 ANSWER 3 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:90792 CAPLUS

DOCUMENT NUMBER: 136:275612

TITLE: Characteristics of DNA **microarrays**

fabricated on various aminosilane layers

AUTHOR(S): Oh, Soon Jin; Cho, Sung Ju; Kim, Chang Ok; Park, Joon Won

CORPORATE SOURCE: Center for Integrated Molecular Systems, Department of Chemistry, Division of Molecular and Life Sciences, Pohang University of Science and Technology, Pohang, 790-784, S. Korea

SOURCE: Langmuir (2002), 18(5), 1764-1769

CODEN: LANGD5; ISSN: 0743-7463

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Four kinds of aminosilane layers on glass slides or silicon wafers were prepd. The amine densities of the layers prepd. with aminopropyltriethoxymethylsilane (APDE3), aminopropylmonooxydimethylsilane (AMPD3), a mixture of aminopropyltriethoxysilane (APTES) and aminopropylmethoxysilane (n-PTMS) (vol. vol. = 1:1), and 4-aminobenzyltriethoxysilane (4-ABTMS) were 1.1, 0.4, 0.4, and 0.4 μmol/cm², respectively. Aminosilane layers were prepd. by silanization of a substrate on the APTES-treated substrate. AFM revealed that AMPD3-, AMPD3-, and APTES/n-PTMS-treated surfaces were relatively flat; on the other hand, a 4-aminobenzyltriethoxysilane-treated surface showed embossed morphol. The aminosilane layers were allowed to react with a heterobifunctional linker containing 4-maleimide butyrate (MB), and subsequently polynucleotide (PNA) oligos were immobilized on the MB-treated substrates. The characteristics of the DNA microarray including the dynamic range, the sensitivity, the specificity, and the storage stability were examined. The results

919-30-2 3179-76-8 18306-79-1

ANST (Analytical study)

(DNA microarrays fabricated on various aminosilane layers)

RN 919-30-2 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

RN 3179-76-8 CAPLUS

CN 1-Propanamine, 3-(diethoxymethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH₂)₃ NH₂

OEt

RN 18306-79-1 CAPLUS

CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH₂)₃ NH₂

Me

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 4 OF 41 WILMS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:51931 CAPLUS

DOCUMENT NUMBER: 130:80850

TITLE: Compositions and methods for array-based genomic analysis and analysis of RNA and molecular

INVENTOR: Brady, Alan; Lee, W. Scott; Martin, Thomas

PATENT AGENCY: US

DATE: 1999-04-14

FILE NO: 09/017, 000

CLASS: C07K 16/00

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY APP. NUM. JOURN: 0

PATENT INFORMATION:

PATENT NO. FILED DATE APPLICATION NO. DATE

1. A method for array-based genomic analysis and analysis of RNA and molecular
2. The method of claim 1, wherein the array is a DNA microarray.
3. The method of claim 1, wherein the array is a protein microarray.
4. The method of claim 1, wherein the array is a peptide microarray.
5. The method of claim 1, wherein the array is a lipid microarray.
6. The method of claim 1, wherein the array is a carbohydrate microarray.
7. The method of claim 1, wherein the array is a nucleic acid microarray.
8. The method of claim 1, wherein the array is a small molecule microarray.
9. The method of claim 1, wherein the array is a polymer microarray.
10. The method of claim 1, wherein the array is a composite microarray.

group. The invention also provides arrays, or "biochips," comprising these modified biol. mols. Also provided are methods for making and using these compns.

BT 919-30-2, 3-Aminopropyltriethoxysilane 2530-83-8,

3-Glycidyloxypropyltrimethoxysilane

RL: ARS (Analytical reagent use); BUU (Biological use, unclassified);

ANST (Analytical study); BIOL (Biological study); USES (Uses

compns. and methods for array-based genomic nucleic acid anal. of biol. mols.)

EN 919-30-2 CAPLUS

IN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtC Si (CH₂)₃ NH₂

OEt

EN 2530-83-8 CAPLUS

IN Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH₂ (CH₂)₃ Si OMe

OMe

L45 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2002:51489 CAPLUS

DOCUMENT NUMBER: 136:98799

TITLE: Improved combination of microporous membrane and solid support for micro-analytical diagnostic applications

PATENT ASSIGNMENT: Cuno, Inc., USA

SOURCE: PCT Int. Appl., 49 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY APP. NUM. (INTL):

PATENT INFO SUMMARY:

PATENT NO.	FILED	DATE	APPLICATION NO.	DATE
WO 01/04477	A2	20020117	WO 01/04477	20020117
WO 01/04477	A1	20020617		
WI: AU, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, JP, KR, LI, NL, NO, PT, SE, SI, SK, TR, UA, US, YU EP: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, JP, KR, LI, NL, NO, PT, SE, SI, SK, TR, UA, US, YU				

INT. CL. CLASS. NO. A61K 31/00 (20060101) A61K 31/00 (20060101) A61K 31/00 (20060101)

wherein the porous nylon multi-cell substrate is covalently bonded to a solid base member, such as, for example, a glass or Mylar microscope slide, such that the combination produced thereby is useful in microarray applications. App. for fabricating a multi-cell substrate is also disclosed. Diagrams describing the app. are given.

IT 919-30-2, 3-Aminopropyltriethoxysilane 1760-24-3,
N-(2-Aminoethyl)-3-aminopropyltrimethoxysilane 2530-83-8,
3-Glycidoxypropyltrimethoxysilane
RL: NUU (Other use, unclassified); USES (Uses)
(improved combination of microporous membrane and **solid support** for micro-anal. diagnostic applications)

RN 419-30-2 CAPLUS
CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

$$\text{EtO} \quad \text{Si} \quad (\text{CH}_2)_3 \quad \text{NH}_2$$

DET

RN	1760-24-3	CAPLUS	
CN	1,2-Ethanediamine, N-[2-(trimethoxysilyl)propyl]-	(9CI)	(CA INDEX NAME)

:JMe

$$\text{MeO} \quad \text{Si} \quad (\text{CH}_2)_3 \quad \text{NH} \quad \text{CH}_2 \quad \text{CH}_2 \quad \text{NH}_2$$
 $\text{:O}=\text{Me}$

RN 2530-83-8 CAPLUS
CN Jilane, trimethoxy[2-[oxiranymethoxy]propyl]- (GCI) (CA INDEX NAME)

0 014-

$$\text{CH}_2 = \text{O} + (\text{CH}_2)_3 + \text{CH}_3\text{OSi}$$

•

are derivatized with various nucleophiles or electrophiles. In the latter case, a variety of surface chemistries have been developed, and several are available com. These chemistries must be compatible with nanoliter-scale vols. of polynucleotide reagents, which contact the array over a small portion of their surface. We reasoned that a three-dimensional polymer coating could potentially offer greater surface contact and higher binding efficiency. Here we describe a polyethylenimine-based coating chem. that provides exceptional binding and hybridization characteristics. In our preferred process, size-fractionated polyethylenimine polymers are cross-linked onto an aminopropylsilanated glass surface in the presence of cyanuric chloride. The resulting three-dimensional coating binds polynucleotides through a mixt. of covalent and noncovalent interactions as evidenced by comparisons between 5'-aminoalkyl modified and unmodified polynucleotides. Binding and hybridization comparisons are presented including analogous two-dimensional electrophilic and electrostatic chemistries.

IT 13822-56-5, 3-Aminopropyltrimethoxysilane

EL: RCT (Reactant); RACT (Reactant or reagent)

efficient binding chem. for glass polynucleotide **microarrays**, synthesis and characterization of glass surface coatings)

RN 13822-56-5 CAPLUS

ON 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ NH₂

OMe

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4# ANSWER 7 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:362771 CAPLUS

DOCUMENT NUMBER: 136:163471

TITLE: HPLC of some nucleosides and bases on p-tert-butyl-calix[6]arene-bonded silica gel stationary phase

AUTHOR(S): Xiao, Yu-Xiu; Xiao, Xian-Chu; Feng, Yu-Qi; Wang, Cheng-Hui; Li, Shi-Li

ANALYST: Xiao, Yu-Xiu; Xiao, Xian-Chu; Feng, Yu-Qi; Wang, Cheng-Hui; Li, Shi-Li

ANALYST: Xiao, Yu-Xiu; Xiao, Xian-Chu; Feng, Yu-Qi; Wang, Cheng-Hui; Li, Shi-Li

ANALYST: Xiao, Yu-Xiu; Xiao, Xian-Chu; Feng, Yu-Qi; Wang, Cheng-Hui; Li, Shi-Li

ANALYST: Xiao, Yu-Xiu; Xiao, Xian-Chu; Feng, Yu-Qi; Wang, Cheng-Hui; Li, Shi-Li

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The high-performance liq. chromat. behavior of some nucleosides and bases was studied on a new p-tert-butyl-calix[6]arene-bonded silica gel stationary phase. The effect of mobile phase composition, column length, and flow rate on the retention and separation of the nucleosides and bases was investigated.

CN 1,2-Ethanediamine, N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

$$\text{EtO}-\text{Si}-(\text{CH}_2)_3-\text{NH}-\text{CH}_2-\text{CH}_2-\text{NH}_2$$

CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

N

CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)

()

WO 2001075166 A2 20011011 WO 2001-US10482 20010330
WO 2001075166 A2 20020501

W: AE, AG, AL, AM, AT, AU, AZ, BA, BE, BG, BR, BY, BZ, CA, CH, CN,
DE, DK, DM, EE, ES, FI, GB, GL, GR, GU, HA, HR,
HU, IE, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MA, MD, MG, MK, MN, MW, MX, ME, NO, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TG, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,
ZA, ZW, AM, AZ, BY, EG, KZ, MD, RU, TJ, TM
FK: GH, GM, KE, LS, MW, ME, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
BI, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

US 2002081597 A1 20020627 US 2001-823548 20010330

PRIORITY APPLN. INFO.:

US 2000-193767P F 20000331

AB Compns. and methods for improving detection sensitivity in nucleic acid microarray anal. are disclosed, including methods of purifying nucleic acids, methods of synthesizing fluorescent DNA probes, methods of hybridization, and methods of activating a substrate for target mol. attachment. The compns. and methods of this invention include synthesis of cDNA, sDNA, or rRNA probes from cellular RNA by in vitro transcription and/or a single-round of reverse transcription with incorporation of fluorochromes. Specific procedures for microarray slide prepn. to decrease background fluorescence are given. For example, silanization of glass slides with toluene as the solvent is preferred. In addn., unmodified polynucleotides can attach to a glass slide treated with 3-aminopropyltriethoxysilane followed by phenylene diisothiocyanate. Modified target DNA can also be synthesized using PCR primers which contain a primary amine and an alkyl linker attached to the 5'-end. The modified target DNA is then reacted with activated silanized glass slides. Microarray hybridization buffers contg. alkylammonium salts, dimethylsulfoxide and formamide and lacking the detergent sodium dodecyl sulfate also improved the detection sensitivity. The invention is illustrated with microarrays hybridized with fluorescent probes synthesized from very small quantities of RNA isolated from microdissected tumor cells, paraffin-embedded liver and colon tissue, fresh frozen liver tissue, and fresh frozen colon tissue. The microarray expts. were designed to compare tissue sample prepn. methods and gene expression in tumor vs. healthy tissues. An example of the sensitivity of these methods shows a microarray hybridized with sDNA probes from one round of amplification of 2 pg of RNA from an ovarian carcinoma cell line.

IT 919-30-2, 3-Aminopropyltriethoxysilane

FI: BBU (Biological use, unclassified); DEV (Device component use); RCT (Research); BBU (Biological use, unclassified); DEV (Device component use); RCT (Research); BBU (Biological use, unclassified); DEV (Device component use); RCT (Research)

Compns. and methods for improving detection sensitivity in nucleic acid microarrays

FI: BBU (Biological use, unclassified); DEV (Device component use); RCT (Research)

FI: BBU (Biological use, unclassified); DEV (Device component use); RCT (Research)

FI: BBU (Biological use, unclassified); DEV (Device component use); RCT (Research)

FI: BBU (Biological use, unclassified); DEV (Device component use); RCT (Research)

SOURCE: ECT Int. Appl., 2- pp.
OPEN: INDEXED
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001070641	A1	20010927	WO 2001-US8993	20010321
W:	AE, AG, AI, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
FW:	GH, GM, KE, LS, MK, NZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GR, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6413722	B1	20020702	US 2000-532419	20000322
US 2002037509	A1	20020328	US 2001-775319	20010201
US 6387611	B2	20020514		

PRIORITY APPLN. INFO.: US 2000-532419 A 20000322

OTHER SOURCE(S): MARPAT 135:269660

AB Methods are provide for modifying a solid support, such as a glass slide, by silylating with an agent having the formula $H_2N(CH_2)_nSiX_3$ ($n = 1-10$, $X =$ independently chosen from OMe, OEt, Cl, Br, I), then activating with a crosslinking reagent, followed by reacting with an amine-contg. polymer. The support can optionally be reacted with a crosslinking reagent again. The support thus modified may be used to make arrays and microarrays where a plurality of targets are stably assocd. with the support and arranged in a defined manner. Thus, glass slides were silylated with 3-aminopropyltrimethoxysilane. The silylated slides were reacted with cyanuric chloride then with PEI, polylysine, or polyhistidine. 3'-Aminoalkyl-terminated oligonucleotides were spotted on such slides and used in hybridization assays.

IT 13822-56-5, 3-Aminopropyltrimethoxysilane

RL: RCT (Reactant); RACT (Reactant or reagent)

(polymer coated surfaces for microarray applications)

RN 13822-56-5 CAFLDS

CN 1-Propanamine, 3-(trimethoxysilyl)- RCT CA INDEX NAME

M

MO 11-01-01-01-01

OMC

REFERENCE COUNT: THERE ARE 1 OTHER REFERENCES AVAILABLE FOR THIS
PATENT. ALL OTHERS ARE AVAILABLE IN THE PATENT

PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The generation of chem. activated glass surfaces is of increasing interest for the produ. of microarrays contg. DNA, proteins, and low-mol.-wt. components. We here report on a novel surface chem. for highly efficient activation of glass slides. Our method is based on the initial modification of glass with primary amino groups using a protocol, specifically optimized for high aminosilylation yields, and in particular, for homogeneous surface coverages. In a following step the surface amino groups are activated with a homobifunctional linker, such as disuccinimidylglutarate (DSG) or 1,4-phenylenediisothiocyanate (PDITC), and then allowed to react with a starburst dendrimer that contains 64 primary amino groups in its outer sphere. Subsequently, the dendritic monomers are activated and crosslinked with a homobifunctional spacer, either DSG or PDITC. This leads to the formation of a thin, chem. reactive polymer film, covalently affixed to the glass substrate, which can directly be used for the covalent attachment of amino-modified components, such as oligonucleotides. The resulting DNA microarrays were studied by means of nucleic acid hybridization expts. using fluorophorelabeled complementary oligonucleotide targets. The results indicate that the novel dendrimer-activated surfaces display a surface coverage with capture oligomers about twofold greater than that with conventional microarrays contg. linear chem. linkers. In addn., the expts. suggest that the hybridization occurs with decreased steric hindrance, likely a consequence of the long, flexible linker chain between the surface and the DNA oligomer. The surfaces were found to be resistant against repeated alk. regeneration procedures, which is likely a consequence of the crosslinked polymeric structure of the dendrimer film. The high stability allows multiple hybridization expts. without significant loss of signal intensity. The versatility of the dendrimer surfaces is also demonstrated by the covalent immobilization of streptavidin as a model protein.

IT 392661-75-5 392661-76-6

RL: ARU (Analytical role, unclassified); DEV (Device component use);

ANST (Analytical study); USES (Uses)

condensation on silica; dendrimer-activated **solid supports** for nucleic acid and protein **microarrays**)

BN 392661-75-5 CAPLUS

CM Pentanamide, 5-[(1,5-dioxo-1-pyrrolidinyl)oxy]-5-oxo-N-[3-(triethoxysilyl)propyl]- (PCI) (CA INDEX NAME)

CEt

L45 ANSWER 11 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:611699 CAPLUS
DOCUMENT NUMBER: 135:177672
TITLE: Linear microarrays
INVENTOR(S): Johann, Timothy W.; Park, Sang Chul
PATENT ASSIGNEE(S): Incyte Genomics, Inc., USA
SOURCE: U.S., 11 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6277628	B1	20010821	US 1998-165465	19981002
US 2002072065	A1	20020613	US 2001-933870	20010820

PRIORITY APPLN. INFO.: US 1998-165465 AI 19981002

AB The present invention provides a method and a compn. for detecting the levels of a plurality of biomol. probes in a sample. In particular, the invention relates to a hybridization compn. for detecting the presence or levels of different polynucleotide sequences in a sample. A Y13 5-mer labeled at the 3'-end with a Cy3 fluorescent dye was immobilized on epoxide-coated glass beads. A capillary tube was packed with the beads sepd. by alternating unmodified beads to prep. a glass bead array.

IT 2530-83-8, 3-Glycidyloxypropyl-trimethoxysilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(linear microarrays)

RE 2530-83-8 CAPTION

100

[illegible]

100

CODEN: NARHAD; ISSN: 0305-1048

Oxford University Press

PUBLISHED:

INSTRUMENT TYPE:

Journal

REFERENCES

English

AB The double helix is known to form as a result of hybridization of complementary nucleic acid strands in aq. soln. In the helix the neg. charged phosphate groups of each nucleic acid strand are distributed helically on the outside of the duplex and are available for interaction with cationic groups. Cation-coated glass surfaces are now widely used in biotechnol., esp. for covalent attachment of cDNAs and oligonucleotides as surface-bound probes on microarrays. These cationic surfaces can bind the nucleic acid backbone electrostatically through the phosphate moiety. Here we describe a simple method to fabricate DNA microarrays based upon adsorptive rather than covalent attachment of oligonucleotides to a pos. charged surface. We show that such adsorbed oligonucleotide probes form a densely packed monolayer, which retains capacity for base pair-specific hybridization with a soln. state DNA target strand to form the duplex. However, both strand disson. kinetics and the rate of DNase digestion suggest, on symmetry grounds, that the target DNA binds to such adsorbed oligonucleotides to form a highly asym. and unwound duplex. Thus, it is suggested that, at least on a charged surface, a non-helical DNA duplex can be the preferred structural isomer under std. biochem. conditions.

13822-56-5, 3-Aminopropyltrimethoxysilane

RL: ARE (Analytical reagent use); ANST (Analytical study); USES (Uses)

(oligonucleotides form duplex with non-helical properties on pos. charged surface)

FM 13822-56-5 CAPLUS

Q1: 1-Propylamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)

OM₁₋₂ $\text{NH}_4^+ \quad \text{Cl}^- \quad \text{CH}_3\text{COO}^- \quad \text{NH}_2^-$ [illegible]

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

1. *Journal of the American Medical Association*, 1997; 277: 1033-1037.

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 200 million to 400 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 250 million to 450 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

Dr. HALL: Mr. W. Department of Chemistry, State Key Laboratory of
Coordination Chemistry, Nanjing University, Nanjing,
210023, P. R. China

for six successive detns. at 1.times.10⁻⁶ mol/L soln. The detection limit is 2.times.10⁻⁷ mol/L.

IT 13822-56-5, (3-Aminopropyl)Trimethoxysilane

RL: ARU (Analytical role, unclassified); DEV (Device component use);

ANST (Analytical study); USES (Uses)

(DNA immobilization on nano-gold modified ITO for detn. of mifepristone)

RN 13822-56-5 CAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (MCI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ NH₂

OMe

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 14 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:320337 CAPLUS

DOCUMENT NUMBER: 134:363619

TITLE: A factorial analysis of silanization conditions for the immobilization of oligonucleotides on glass surfaces

AUTHOR(S): Halliwell, Catherine M.; Cass, Anthony E. G.

CORPORATE SOURCE: Department of Biochemistry Imperial College of Science Technology and Medicine, University of London, London, SW7 2AY, UK

SOURCE: Analytical Chemistry (2001), 73(11), 2476-2483

CODEN: ANCHAM; ISSN: 0003-2700

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The modification of glass surfaces with (3-mercaptopropyl)trimethoxysilane and the application of this to DNA chip technol. are described. A range of factors influencing the silanization method, and hence the no. of surface-bound, chem. active thiol groups, were investigated using a design of expt. approach based on anal. of variance. The no. of thiol groups introduced on glass substrates were measured directly using a specific radiolabel, ³⁵S-methionine, and indirectly using a lipophilic fluorescent probe. For lip.-phase silanization, the no. of surface-bound thiol groups was found to be dependent on the silanization time, reaction temp., and sample pretreatment, but relatively independent of the silanization time and reaction temp. For vacuum-phase silanization, the no. of surface-bound thiol groups was found to be dependent on the silanization time, reaction temp., and sample pretreatment, but relatively independent of the silanization time and reaction temp. The reliability and repeatability of lip.- and vacuum-phase silanization were also investigated. Eighteen-base oligonucleotide probes were covalently attached to the modified surfaces via a 5'-amine modification on the DNA and subsequent reaction with the crosslinking reagent N-(3-dimethylaminopropyl) carbodiimide (EDC). The resulting probes were

919-30-2, (3-Aminopropyl)trimethoxysilane

RL: ARU (Analytical role, unclassified); DEV (Device component use);

ANST (Analytical study)

oligonucleotides on glass surfaces)

EN 914-31-2 CAPLUS

W 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

LE

ENC 51 1NH₂ 13 NH₂

LE

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 15 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2001:284303 CAPLUS

DOCUMENT NUMBER: 135:42876

TITLE: Peptide and small molecule **microarray** for high throughput cell adhesion and functional assays

AUTHOR(S): Falsey, James R.; Renil, M.; Park, Steven; Li, Shijun; Lam, Kit S.

CORPORATE SOURCE: UC Davis Cancer Center Division of Hematology/Oncology and Department of Internal Medicine, University of California Davis, Sacramento, CA, 95317, USA

SOURCE: Biocconjugate Chemistry (2001), 12(3), 346-353

CODEN: BCCHE5; ISSN: 1043-1802

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A novel class of chem. microchips consisting of glass microscope slides was prepd. for the covalent attachment of small mol. ligands and peptides through site-specific oxime bond or thiazolidine ring ligation reaction. Com. available microscope slides were thoroughly cleaned and derivatized with 3-aminopropyltriethoxysilane (APTES). The amino slides were then converted to glyoxylyl derivs. via two different routes: (1) coupling of Fmoc-Ser followed by deprotection and oxidn., or (2) coupling with protected glyoxylic acid and final deprotection with HCl. Biotin or peptide ligands derivatized at the carboxyl terminus with a 4,7,10-trioxo-1,13-tridecanediamine succinimide acid linker and an amino-oxo group or a 1,2-amino-thiol group (e.g., cysteine with a free thiol group) were printed onto these slides using a DNA microarray system. After immobilization, the microarray of immobilized ligands was analyzed with three different cell assays: (1) proliferation assay with adherent cells (e.g., C2C12 myoblasts), (2) cell adhesion assay using adherent cells and peptide-coated slides, and (3) cell adhesion assay with adherent cells. In the cell adhesion assay, not only can we det. the binding specificity of the peptide against different cell lines, we can also det. functional cell signaling of attached cells using immunofluorescence techniques in situ on the microchip. This chem. microchip system enabled us to rapidly analyze the functional properties of numerous ligands that we have synthesized from the "de novo de-novo" combinatorial library approach.

OEt

EtO Si (CH₂)₃ NH₂

OEt

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2001:159116 CAPLUS

DOCUMENT NUMBER: 134:307437

TITLE: Controlled immobilization of DNA molecules using chemical modification of mica surfaces for atomic force microscopy: Characterization in air

AUTHOR(S): Umemura, Kazuo; Ishikawa, Mitsuru; Kuroda, Reiko

CORPORATE SOURCE: Joint Research Center for Atom Technology (JRCAT)-Angstrom Technology Partnership (ATP), Tsukuba, Ibaraki, 305-0046, Japan

SOURCE: Analytical Biochemistry (2001), 290(2), 232-237
CODEN: ANBICA2; ISSN: 0003-2697

PUBLISHER: Academic Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Immobilization of biomols. on surfaces while keeping the max. conformational flexibility of the mols. is one of the most important techniques for at. force microscopy imaging. We have developed two methods of controlling adsorption of DNA mols. on mica surfaces. The first method is the use of a mica surface modified with dild. 3-aminopropyltriethoxysilane (APS). Here we named this a "dild. APS-treated mica (AF-mica)" technique. The second method is the use of a mica surface modified with mixed self-assembled monolayers of organosilanes. In both of the techniques, the no. of DNA mols. immobilized on a mica surface was controlled. Further, a conformational change of circular DNA, from a supercoiled to a relaxed form was obsd. for the mols. immobilized on a dild. AF-mica surface, when 254-nm UV light was irradiated. This observation demonstrated that flexibility of circular DNA mols. was kept on a dild. AF-mica surface. (c) 2001 Academic Press.

IT 919-30-2, 3-Aminopropyltriethoxysilane

RL: AEU (Analytical role, unclassified); DEV (Device component use);

ANST (Analytical study); USER: User

RNA immobilization on mica surfaces for atomic force microscopy: characterization in air

RI 134-307437

CT 3-aminopropyltriethoxysilane, AF-mica, AF-mica NAME

OEt

EtO Si (CH₂)₃ NH₂

Et

microarrays
INVENTOR(S): Anserge, Wilhelm; Faulstich, Konrad
PATENT ASSIGNEE(S): Europaeisches Laboratorium Fuer Molekularbiologie
(EMBL), Germany
SOURCE: ECT Int. Appl., 38 pp.
CODEN: P1XXD1
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY APP. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001014585	A1	20010301	WO 2000-EP8193	20000822
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, ME, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SE, SF, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, EG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
DE 10016073	A1	20010301	DE 2000-10016073	20000331
EP 1212466	A1	20020612	EP 2000-962356	20000822
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL			

PRIORITY APPLN. INFO.: DE 1999-19940077 A 19990824
DE 2000-10016073 A 20000331
WO 2000-EP8193 W 20000822

AB The invention relates to methods for covalent immobilization of biopolymers, esp. those of nucleic acids, on a solid phase. Covalent bonds are made between primary or/and secondary amino groups of said biopolymers and groups of the solid phase which react with said amino groups. Silica-based solid phases with defined functional groups are used for the immobilization of 5' amino-modified nucleotides; the prepd. DNA microarrays are used in amplification procedures.

IT 51895-58-0

RI: DEV (Device component use); USES (Uses)

method for covalent immobilization and labeling of biopolymers esp. prepd. of nucleic acid **microarrays**

EN 1999-19940077 A 19990824

DE 2000-10016073 A 20000331

Me NH₂ CH₂ NH₂ (CH₂)₆ NH₂

Me

DEPENDENT CLAIMS: THERE ARE NO DEPENDENT CLAIMS AVAILABLE FOR THIS

SOURCE: PCT Int. Appl., 83 pp.
CODEN: FIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000079006	A1	20001228	WO 2000-US10722	20000616
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

PRIORITY APPLN. INFO.: US 1999-139846P P 19990617

AB Arrays of HLA Class I oligonucleotide probes on a solid support are provided, wherein the probes are sufficient to represent at least 80% of the known polymorphisms in exons 2 and 3 of the HLA Class I locus.

IT 13822-56-5, Aminopropyltrimethoxysilane

RL: APU (Analytical role, unclassified); BUU (Biological use, unclassified); THU (Therapeutic use); ANST (Analytical study);

BIOL (Biological study); USES (Uses)

(solid support derivatized with; oligonucleotide arrays for high resolu. HLA typing and transplant compatibility anal.)

RN 13822-56-5 CAPLUS

CN 1-Propanamine, 3-(trimethoxysilyl)- (9CI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ NH₂

OMe

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 18 OF 41 CAILUS COPYRIGHT 2000 ACF

ACCESSION NUMBER: 20000898939 CAILUS

DOCUMENT NUMBER: 131:262352

TITLE: Covalent attachment of DNA to glass supports using a new silane coupling agent and chemiluminescent detection

AUTHOR(S): Chen, Guohua; Chen, Yirui; Wu, Xiaoyan; Yan, Jinsong; Fan, Jia

ORIGINATOR(S): Institute of Immunogenetics, School of Basic Medical Sciences, Fudan University, Shanghai, People's Rep. China

JOURNAL: Journal of Fudan Medical University (2000), 21(1), 82-84

CNEN: STMUEL; ISSN: 1007-258X

PUBLISHER: Fudan Medical University

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Covalent attachment of DNA to glass supports using a new silane coupling agent and chemiluminescent detection

RL: APL (Analytical role, unclassified); BAC (Biological activity or effect, except adverse); BPP (Biological process); BSH (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); ERO (Process)

covalent attachment of DNA to glass supports using a new silane coupling agent and chemiluminescent detection

AN 919-8-2 CAPLUS

1-Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OE:

EtO Si (CH₂)₃ NH₂

(E+)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LAST ANSWER 20 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:670568 CAPLUS

DOCUMENT NUMBER: 134:159600

TITLE: Protein microarrays for monitoring of structural changes of proteins via surface enhanced metal nano cluster resonance

AUTHOR(S): Mayer, Christian; Palkovits, Roland; Bauer, Georg; Schalkhammer, Thomas

CORPORATE SOURCE: Kluysse L. for Biotechnology, TU-Delft, Delft, 2628BC, Neth.

SOURCE: Micro Total Analysis Systems 2000, Proceedings of the 10th TAS Symposium, 4th, Enschede, Netherlands, May 14-18, 2000 (2000), 553-556. Editor(s): Van den Berg, Albert; Olthuis, W.; Bergveld, Piet. Kluwer Academic Publishers: Dordrecht, Neth.

CODEN: 69AJPR

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Structural changes of ultra thin protein layers caused by changes in micro environment, meaning a conformational change of the protein, were transduced into a optical signal obsd. directly as a color change of a nano cluster. We have successfully developed a nano cluster resonance (NCR) optical sensor for ultra-thin and ultra-pure protein layers. The optical resonance effect was obtained by deposition of metal nano-clusters on top of the proteins. The resonance of the nano cluster array was monitored spectrophotometrically in the visible and UV range of the spectrum. This set-up enabled us to transduce a change of protein conformation of various serum proteins and enzymes into a optical signal, reversibly and directly visible to the human eye.

3179-76-8

1-Propylamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

protein microarrays for monitoring structural changes

OEt

Me Si (CH₂)₃ NH₂

OEt

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 21 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:384565 CAPLUS

DOCUMENT NUMBER: 133:25236

TITLE: Methods and compositions for performing an array of chemical reactions on a support surface

INVENTOR(S): Zebala, John A.

PATENT ASSIGNEE(S): Syntrix Biochip, Inc., USA

SOURCE: PCT Int. Appl., 157 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000039084	A2	20000609	WO 1999-US28021	19991123
WO 2000039084	A3	20000810		
W: AF, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AN, BY, KG, KZ, MD, RU, TJ, TM				
RW: GB, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1165374	A2	20011219	EP 1999-961813	19991123
R: AU, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, SG, PT, IE, SI, LT, LV, FI, F				

PRIORITY CLAIM INFORMATION:

US 1999-11-12 US 19991123

EP 1999-11-23 EP 19991123

WO 1999-11-23 WO 19991123

Abstract: Methods and compositions for performing an array of chemical reactions on a support surface. Such methods may employ solvent-resistant polymers or resins to form arrays of reactive groups, such as ligands, and are within a variety of diagnostic and drug discovery assays. Liquid arrays may comprise, for example, nucleobase polymers that are resistant to denaturing enzymes. DNA probes and enalaprilat analogs were synthesized on glass slides using a polymerization method and used in hybridization assays and ACE inhibitory activity assays.

17 71-30-7, Cytosine 73-40-5, Guanine

H
H NH₂

N

RI 73-4 -5 CAPLUS

CH 6H-Purin-6-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)

HAN H
N N

N NH

C

IT 273752-55-9DP, immobilized 273752-56-0DP,
immobilized 273752-57-1DP, immobilized
273752-58-2DP, immobilized 273752-59-3DP,
immobilized 273752-60-6DP, immobilized
273752-61-7DP, immobilized 273752-62-8DP,
immobilized 273752-63-9DP, immobilized

RL: DEV (Device component use); FEP (Physical, engineering or chemical
process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
PROC (Process); RACT (Reactant or reagent); USES (Uses)

prep. and detachment of; methods and comps. for performing arrays of
chem. reactions on support surfaces using photoresists)

RI 273752-55-9 CAPLUS

CH L-Proline, N-[(1S)-1-carboxy-2-phenylethyl]-L-alanyl-,
2-[[1,1-dimethyl-3-[[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phen
yl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

H
H

NH

NH NH NH NH

N

||
||
||

PAGE 1-E

EtO
OEt
Si
OEt

RN 273752-56-0 CAFLUS
CN L-Proline, N-[(1S)-1-carboxy-2-(2-nitrophenylethyl)-L-alanyl-,
2-[1,1-dimethyl-5-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phen-
yl]propyl] ester (901) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

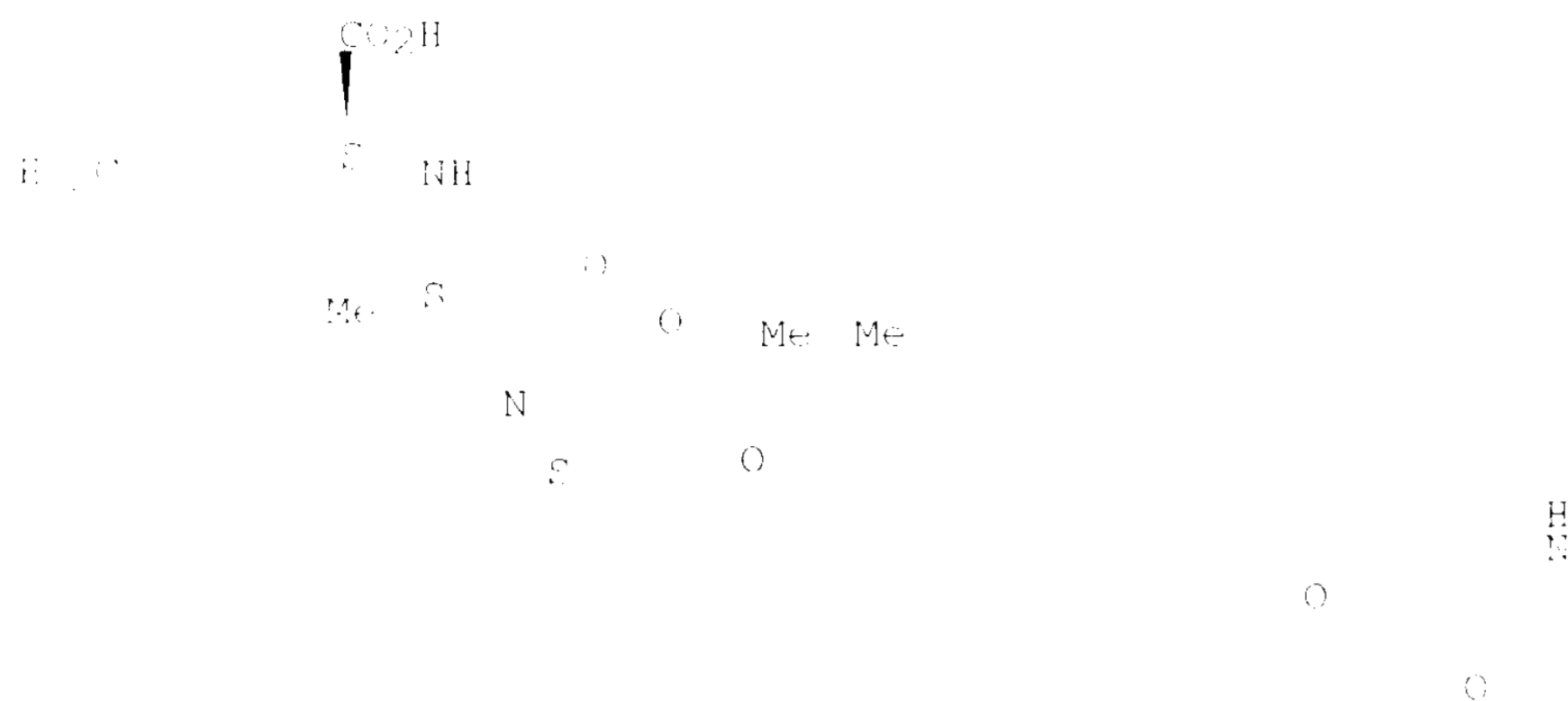


PAGE 1-F

(FA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

FIG
(E)
H
H

1,1,1-trimethyl-2,2,2-trifluoroethane

1,1,1-trimethyl-2,2,2-trifluoroethane, 1,1,1-trimethyl-2,2,2-trifluoroethane, 1,1,1-trimethyl-2,2,2-trifluoroethane

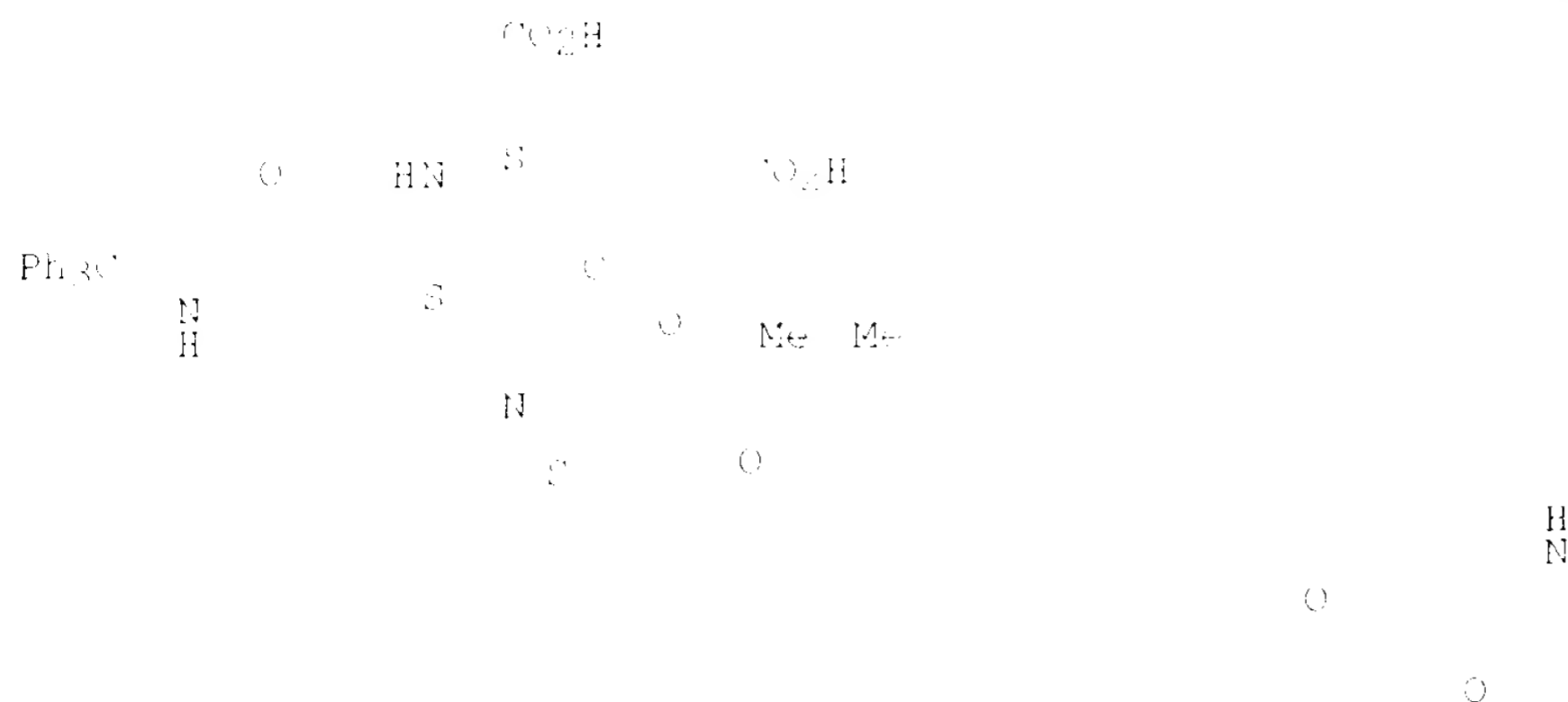
1,1,1-trimethyl-2,2,2-trifluoroethane, 1,1,1-trimethyl-2,2,2-trifluoroethane, 1,1,1-trimethyl-2,2,2-trifluoroethane

Absolute stereochemistry.

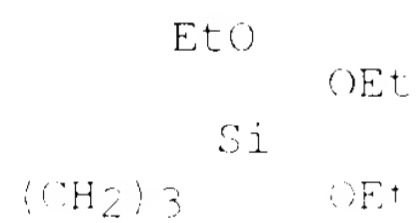
PAGE 1-B

F-0 OEt
 Si OEt
 (CH₂)₃
 273752-60-6 CAPLUS
 L-Proline, N2-[(1S)-1,3-dicarboxypropyl]-N-(triphenylmethyl)-L-asparaginyl-
 1,3-bis-(triethoxysilyl)-propylamine[ethoxy]ph
 (CA INDEX NAME)
 1,3-bis-(triethoxysilyl)-propylamine[ethoxy]ph

PAGE 1-A



PAGE 1-B



RN 273752-61-7 CAPLUS

CR 1-Proline, N-[(1S)-1-carboxy-2-phenylethyl]-O-(1,1-dimethylethyl)-L-proline,
 1-[(1,1-dimethylethyl)-4-oxo-1,2,3,4-tetrahydro-2H-pyridine-2-yl]proline, (S)-
 isomer, (S)-1-[(1,1-dimethylethyl)-4-oxo-1,2,3,4-tetrahydro-2H-pyridine-2-yl]proline

As a reference compound.

PAGE 1-B

EtO
OEt
Si
(CH₂)₃ OEt

RN 273752-63-9 CAFLUS
CN L-Proline, N-[(1S)-1,3-dicarboxypropyl]-O-(1,1-dimethylethyl)-L-seryl-,
2-[1,1-dimethyl-3-[4-[2-oxo-2-[[3-(triethoxysilyl)propyl]amino]ethoxy]phen-
yl]propyl] ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-1

Et (

OEt.

60

 $(\text{CH}_2)_3$

OEt.

L47 ANSWER 20 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:54038 CAPLUS

DOCUMENT NUMBER: 132:90351

TITLE: Photoluminescent semiconductor materials

INVENTOR(S): Armstrong, David W.; Lafrance, Martine L.

PATENT ASSIGNEE(S): Iatroquest Corporation, Can.

SOURCE: PCT Int. Appl., 37 pp.

CODEN: FIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1.

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WC 2000003230	A1	20000120	WO 1999-CA642	19990709
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,			
	DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,			
	JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,			
	MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,			
	TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KC, KZ, MP,			
	RU, TC, TM			
EW:	GB, HK, IE, IS, MW, SI, OL, OT, PA, PK, PL, RE, CH, IT, DE, JP,			
	FR, FI, BE, GR, SP, SE, HF, AT, LU, NL, NO, IE, SF, EE, BG, HU, CY,			
	GR, UK, VA, SN, SW, ME, MB, NE, GN, TG, TD			
AP 19980001	A1	19980101	AM 1998-0400	19980101
FI 19980001	A1	19980101	FI 1998-0400	19980101
E:	AT, BE, CH, DE, DK, EP, FR, GB, GR, IT, LI, LU, NL, NO, PT, SE,			
	IE, FI, NY			

[illegible]

DOI: 10.1002/for

W. 1994-2004 W. 1995-2005

Some of the materials having various textures are described with the following: (a) smooth, (b) granular, and (c) rough. (d) Luminous, (e) translucent, (f) transparent, (g) opaque, (h) reflective. The same names of materials are used, and they may be combined in any way desired. The

OTHER SOURCE(S): MARPAT 131:332971

AB The invention relates to novel chem. modified nucleic acids with enhanced lability towards solid supports, such as glass. These modified nucleic acids can be readily affixed to solid supports, for instance, a glass surface, without first derivatizing the glass surface. In certain embodiments, the chem. modified nucleic acids of the invention are so modified via: (1) compds. having a ring ether and an alkoxysilane group, (2) compds. having an amine group and an alkoxysilane group, (3) halogenated silanes, or (4) amine-contg. silanes reacted with brominated nucleic acids. High-d. microarrays based on these modified nucleic acids as well as methods for prepg. these microarrays are also useful.

IT 919-30-2DP, 3-Aminopropyltriethoxysilane, bound to a nucleic acid
2530-83-8DP, 3-Glycidoxypropyltrimethoxysilane, bound to a nucleic acid

RL: ARG (Analytical reagent use); BPN (Biosynthetic preparation);

ANST (Analytical study); BIOL (Biological study); PREP

(Preparation); USES (Uses)

chem. modified nucleic acids having enhanced lability towards solid supports, and uses thereof in high d. microarrays)

RN 919-30-2 CAPLUS

CI 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

RN 2530-83-8 CAPLUS

CI Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH₃ (CH₂)₃ Si OMe

OMe

71-30-7, Cytosine

Biological compound; BPN (Biosynthetic preparation);

Biological study; PREP (Preparation);

chem. modified nucleic acid comprising: chem. modified nucleic acid having enhanced lability towards solid supports, and uses thereof in high-d. microarrays

RN 71-30-7 CAPLUS

CI 1H-lyridine, 4-amino- (9CI) (CA INDEX NAME)

H

1591-21-5 14867-28-8

70892-80-7 82985-34-0

100

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 99/1773	A1	19991014	WO 1999-US7203	19990331
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LE, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RC, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TC, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MF, NE, SN, TD, TG			
CA 233638	AA	19991014	CA 1999-2323638	19990331
AU 994636	A1	19991025	AU 1999-34636	19990331
EP 1068356	A1	20010117	EP 1999-916333	19990331
E:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
JP 2002510505	T2	20020409	JP 2000-542434	19990331
PRIORITY APPLN. INFO.:			US 1998-80686P	P 19980403
			WO 1999-US7203	W 19990331

AB Disclosed herein are arrays of nucleic acid-protein fusions which are immobilized to a solid surface through capture probes which include a non-nucleosidic spacer group and an oligonucleotide sequence to which the fusion (such as an RNA-protein fusion) is bound. RNA-protein fusions are synthesized by in vitro translation of mRNA pools contg. a peptide acceptor such as puromycin attached to their 3'-ends, such that a covalent amid bond forms between the 3'-end of the mRNA and the C-terminus of the protein which it encodes. The arrays are prepd. by fixing oligonucleotide sequences, the capture probes, to a support in a defined array; the capture probes are then used to bind nucleic acid-protein fusions through base pairing between the nucleic acid component of the fusion and a complementary capture probe. The result of the binding interactions between the fusions and the capture probes is a defined, addressable array of proteins attached to a solid support. Also disclosed herein are solid supports on which these arrays are immobilized as well as methods for their prepn. and use (for example, for screening for protein-compd. interactions such as protein-therapeutic compd. interactions). Exemplary fusion chips are generated for FLAG, HA11, and c-Myc epitope fusions.

17 13822-56-5

ENCLOSURE: 1. 13822-56-5; 2. 13822-56-5; 3. 13822-56-5; 4. 13822-56-5; 5. 13822-56-5; 6. 13822-56-5; 7. 13822-56-5; 8. 13822-56-5; 9. 13822-56-5; 10. 13822-56-5; 11. 13822-56-5; 12. 13822-56-5; 13. 13822-56-5; 14. 13822-56-5; 15. 13822-56-5; 16. 13822-56-5; 17. 13822-56-5; 18. 13822-56-5; 19. 13822-56-5; 20. 13822-56-5; 21. 13822-56-5; 22. 13822-56-5; 23. 13822-56-5; 24. 13822-56-5; 25. 13822-56-5; 26. 13822-56-5; 27. 13822-56-5; 28. 13822-56-5; 29. 13822-56-5; 30. 13822-56-5; 31. 13822-56-5; 32. 13822-56-5; 33. 13822-56-5; 34. 13822-56-5; 35. 13822-56-5; 36. 13822-56-5; 37. 13822-56-5; 38. 13822-56-5; 39. 13822-56-5; 40. 13822-56-5; 41. 13822-56-5; 42. 13822-56-5; 43. 13822-56-5; 44. 13822-56-5; 45. 13822-56-5; 46. 13822-56-5; 47. 13822-56-5; 48. 13822-56-5; 49. 13822-56-5; 50. 13822-56-5; 51. 13822-56-5; 52. 13822-56-5; 53. 13822-56-5; 54. 13822-56-5; 55. 13822-56-5; 56. 13822-56-5; 57. 13822-56-5; 58. 13822-56-5; 59. 13822-56-5; 60. 13822-56-5; 61. 13822-56-5; 62. 13822-56-5; 63. 13822-56-5; 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AP A procedure for covalent binding of DNA to a functionalized mica substrate is described. The approach is based on photochem. crosslinking of DNA to immobilized psoralen derivs. A tetrakis(phenyl) (TFP) ester of tri-Me psoralen (trioxalen) was synthesized, and the procedure to immobilize it onto a functionalized aminopropyl mica surface (AP-mica) was developed. DNA mols. were cross-linked to trioxalen moieties by UV irradiation of complexes. The steps of the sample prepn. procedure were analyzed with XPS (KPS). Results from XPS show that an AP-mica surface can be formed by vapor phase deposition of silane and that this surface can be derivatized with trioxalen. The derivatized surface is capable of binding of DNA mols. such that, after UV crosslinking, they withstand a thorough rinsing with SDS. Observations with at. force microscopy showed that derivatized surfaces remain smooth, so DNA mols. are easily visualized. Linear and circular DNA mols. were photochem. immobilized on the surface. The mols. are distributed over the surface uniformly, indicating rather even modification of AP-mica with trioxalen. Generally, the shapes of supercoiled mols. electrostatically immobilized on AP-mica and those photocross-linked on trioxalen-functionalized surfaces remain quite similar. This suggests that UV crosslinking does not induce formation of a noticeable no. of single-stranded breaks in DNA mols.

RL: ARN (Analytical role, unclassified); ANST (Analytical study)
mica surface coated with,; imaging of DNA by at. force microscopy
based on covalent photochem. crosslinking of DNA to trioxalen
immobilized onto mica surface)

001 1-Propanamine, 3-(triethoxysilyl)- (9C1) (CA INDEX NAME)

For the first time, the authors have shown that the

JP 1998-204923 A 19980724

CN 1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

CN Silane, trimethoxy[5-(oxiranymethoxy)hexyl]- (9CI) (CA INDEX NAME)

— 25 —

RI, RJ, SK, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UE, VN,
 YB, AM, AC, BY, KG, KZ, MD, RU, TG, TM
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
 CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 98-5825 A1 19990216 AU 1998-85825 19980721

AT 98-547 B2 20010712

EP 98-547 A1 20000931 EP 1998-087016 19980721

RI: AI, BE, CH, DE, FR, ES, FR, GB, GR, IT, LI, LU, NL, SE, SI, PT,
 IF, FI

US 98-120386 A 20001111 US 1998-120386 19980721

JP 98-504953 JF 2000-504953 19980721

PRIORITY APPLN. INFO.: US 1997-53352P P 19970722

WO 1998-0315246 W 19980721

AB An array of biomols. is formed from a flat solid substrate, whereby said surface is covered with a layer of polyethylenimine (PEI) and this layer is divided among a plurality of discrete first regions abutted and surrounded by a contiguous second region. The process includes the step of depositing a biomol. into the first regions while maintaining the second region substantially free of the biomol.

IT 2530-83-8, 3-(2,3-Epoxypropoxy)propyltrimethoxysilane

RL: AKT (Analytical role, unclassified); RCT (Reactant); ANST (Analytical study); RACT (Reactant or reagent)

use as bifunctional coupling agent; novel polyethylenimine-based biomol. arrays)

RN 2530-83-8 CAPLUS

SI Silane, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH₂ O (CH₂)₃ Si CMe

OMe

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LAST ANSWER 19 OF 41 CAPLUS COPYRIGHT 2002 A13

ACCESSION NUMBER: 1997:258651 CAPLUS

DOCUMENT NUMBER: 127:13891

INDEX: Chemical attachment 1 hybridized to 13891-13901-13902-13903-13904-13905-13906-13907-13908-13909-13910-13911-13912-13913-13914-13915-13916-13917-13918-13919-13920-13921-13922-13923-13924-13925-13926-13927-13928-13929-13930-13931-13932-13933-13934-13935-13936-13937-13938-13939-13940-13941-13942-13943-13944-13945-13946-13947-13948-13949-13950-13951-13952-13953-13954-13955-13956-13957-13958-13959-13960-13961-13962-13963-13964-13965-13966-13967-13968-13969-13970-13971-13972-13973-13974-13975-13976-13977-13978-13979-13980-13981-13982-13983-13984-13985-13986-13987-13988-13989-13990-13991-13992-13993-13994-13995-13996-13997-13998-13999-14000-14001-14002-14003-14004-14005-14006-14007-14008-14009-14010-14011-14012-14013-14014-14015-14016-14017-14018-14019-14020-14021-14022-14023-14024-14025-14026-14027-14028-14029-14030-14031-14032-14033-14034-14035-14036-14037-14038-14039-14040-14041-14042-14043-14044-14045-14046-14047-14048-14049-14050-14051-14052-14053-14054-14055-14056-14057-14058-14059-14060-14061-14062-14063-14064-14065-14066-14067-14068-14069-14070-14071-14072-14073-14074-14075-14076-14077-14078-14079-14080-14081-14082-14083-14084-14085-14086-14087-14088-14089-14090-14091-14092-14093-14094-14095-14096-14097-14098-14099-14100-14101-14102-14103-14104-14105-14106-14107-14108-14109-14110-14111-14112-14113-14114-14115-14116-14117-14118-14119-14120-14121-14122-14123-14124-14125-14126-14127-14128-14129-14130-14131-14132-14133-14134-14135-14136-14137-14138-14139-14140-14141-14142-14143-14144-14145-14146-14147-14148-14149-14150-14151-14152-14153-14154-14155-14156-14157-14158-14159-14160-14161-14162-14163-14164-14165-14166-14167-14168-14169-14170-14171-14172-14173-14174-14175-14176-14177-14178-14179-14180-14181-14182-14183-14184-14185-14186-14187-14188-14189-14190-14191-14192-14193-14194-14195-14196-14197-14198-14199-14200-14201-14202-14203-14204-14205-14206-14207-14208-14209-14210-14211-14212-14213-14214-14215-14216-14217-14218-14219-14220-14221-14222-14223-14224-14225-14226-14227-14228-14229-14230-14231-14232-14233-14234-14235-14236-14237-14238-14239-14240-14241-14242-14243-14244-14245-14246-14247-14248-14249-14250-14251-14252-14253-14254-14255-14256-14257-14258-14259-14260-14261-14262-14263-14264-14265-14266-14267-14268-14269-14270-14271-14272-14273-14274-14275-14276-14277-14278-14279-14280-14281-14282-14283-14284-14285-14286-14287-14288-14289-14290-14291-14292-14293-14294-14295-14296-14297-14298-14299-14300-14301-14302-14303-14304-14305-14306-14307-14308-14309-14310-14311-14312-14313-14314-14315-14316-14317-14318-14319-14320-14321-14322-14323-14324-14325-14326-14327-14328-14329-14330-14331-14332-14333-14334-14335-14336-14337-14338-14339-14340-14341-14342-14343-14344-14345-14346-14347-14348-14349-14350-14351-14352-14353-14354-14355-14356-14357-14358-14359-14360-14361-14362-14363-14364-14365-14366-14367-14368-14369-14370-14371-14372-14373-14374-14375-14376-14377-14378-14379-14380-14381-14382-14383-14384-14385-14386-14387-14388-14389-14390-14391-14392-14393-14394-14395-14396-14397-14398-14399-14400-14401-14402-14403-14404-14405-14406-14407-14408-14409-14410-14411-14412-14413-14414-14415-14416-14417-14418-14419-14420-14421-14422-14423-14424-14425-14426-14427-14428-14429-14430-14431-14432-14433-14434-14435-14436-14437-14438-14439-14440-14441-14442-14443-14444-14445-14446-14447-14448-14449-14450-14451-14452-14453-14454-14455-14456-14457-14458-14459-14460-14461-14462-14463-14464-14465-14466-14467-14468-14469-14470-14471-14472-14473-14474-14475-14476-14477-14478-14479-14480-14481-14482-14483-14484-14485-14486-14487-14488-14489-14490-14491-14492-14493-14494-14495-14496-14497-14498-14499-14500-14501-14502-14503-14504-14505-14506-14507-14508-14509-14510-14511-14512-14513-14514-14515-14516-14517-14518-14519-14520-14521-14522-14523-14524-14525-14526-14527-14528-14529-14530-14531-14532-14533-14534-14535-14536-14537-14538-14539-14540-14541-14542-14543-14544-14545-14546-14547-14548-14549-14550-14551-14552-14553-14554-14555-14556-14557-14558-14559-14560-14561-14562-14563-14564-14565-14566-14567-14568-14569-14570-14571-14572-14573-14574-14575-14576-14577-14578-14579-14580-14581-14582-14583-14584-14585-14586-14587-14588-14589-14590-14591-14592-14593-14594-14595-14596-14597-14598-14599-14600-14601-14602-14603-14604-14605-14606-14607-14608-14609-14610-14611-14612-14613-14614-14615-14616-14617-14618-14619-14620-14621-14622-14623-14624-14625-14626-14627-14628-14629-14630-14631-14632-14633-14634-14635-14636-14637-14638-14639-14640-14641-14642-14643-14644-14645-14646-14647-14648-14649-14650-14651-14652-14653-14654-14655-14656-14657-14658-14659-14660-14661-14662-14663-14664-14665-14666-14667-14668-14669-14670-14671-14672-14673-14674-14675-14676-14677-14678-14679-14680-14681-14682-14683-14684-14685-14686-14687-14688-14689-14690-14691-14692-14693-14694-14695-14696-14697-14698-14699-14700-14701-14702-14703-14704-14705-14706-14707-14708-14709-14710-14711-14712-14713-14714-14715-14716-14717-14718-14719-14720-14721-14722-14723-14724-14725-14726-14727-14728-14729-14730-14731-14732-14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glass slides

RL: ARU (Analytical role, unclassified); DEV (Device component use); SYN (Synthetic preparation); ANST (Analytical study); PREF (Preparation); USES (Uses)

(covalent attachment of hybridizable oligonucleotides to glass supports)

RN 918-15-2 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (918-15-2) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

L45 ANSWER 30 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1996:657014 CAPLUS

DOCUMENT NUMBER: 126:26153

TITLE: Carbazine dyes and derivatives for pH measurement

INVENTOR(S): Smith, Roger E.

PATENT ASSIGNEE(S): Utah Medical Products, Inc., USA

SOURCE: U.S., 23 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5567624	A	19961021	US 1996-429622	19960427
CA 2219117	AA	19961031	CA 1996-2219117	19960426
WO 9634284	AI	19961031	WO 1996-US5777	19960426
W:	AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GE, SE, HU, IS, JP, KE, KG, KH, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NE, PL, PT, RO, RU, SD, SE, SG, SI			
EW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CI, CO, CN, CR, CU			
AT 407175	A	19961117	AT 1996-407175	19961117
AT 407176	B	19961117	AT 1996-407176	19961117
EP 114111	A	19961117	EP 1996-114111	19961117
EP 114112	B	19961117	EP 1996-114112	19961117
EP 1968144	A	19961117	EP 1996-1968144	19961117
EP 1968145	B	19961117	EP 1996-1968145	19961117

IFI FIFTY AMPLIN. INF 1:

US 1996-407175 A 19961117

EP 1996-1968144 W 19961117

AB A compn. for detn. pH of a soln. comprises a fluorescent carbazine dye covalently bound to a solid support. A method of detn. pH of a soln. comprises placing the compn. in the soln., contacting the compn. with a selected wavelength of light to excite the dye bound to the solid support,

2530-83-8

1,3-bis(4-ethoxyphenyl)-4-methyl-5-pyridylmethanol

1,3-bis(4-ethoxyphenyl)-4-methyl-5-pyridylmethanol solid

2530-83-8

RE 2530-83-8 CAPLUS
SI Silane-, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH₃ CH₂ X Si OMe

OMe

141 ANSWER 31 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:401921 CAPLUS
DOCUMENT NUMBER: 117:1921
TITLE: Oligonucleotide hybridizations on glass supports: a novel linker for oligonucleotide synthesis and hybridization properties of oligonucleotides synthesized in situ
AUTHOR(S): Maskos, Uwe; Southern, Edwin M.
INTEGRATE SOURCE: Dep. Biochem., Univ. Oxford, Oxford, OX1 3QU, UK
SOURCE: Nucleic Acids Res. (1992), 20(7), 1679-84
CODEN: NARHAD; ISSN: 0305-1048
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel linker for the synthesis of oligonucleotides on a glass support is described. Oligonucleotides synthesized on the support remain tethered to the support after ammonia treatment and are shown to take part in sequence-specific hybridization reactions. These hybridizations were carried out with oligonucleotides synthesized on ballottini solid sphere glass beads and microscope slides. The linker has a hexaethylene glycol spacer, bound to the glass via a glycidoxypentyl silane, terminating in a primary hydroxyl group that serves as starting point for automated or manual oligonucleotide synthesis.

IT 2530-83-8

SI: USES (Uses)

glass support immobilization of, reaction with diols after, for synthesis of **solid support**-bound linker for oligonucleotide synthesis)

RE 2530-83-8 CAPLUS
SI Silane-, trimethoxy[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)

OMe

CH₃ CH₂ X Si OMe

OMe

141 ANSWER 31 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:401921 CAPLUS
DOCUMENT NUMBER: 117:1921

141 ANSWER 31 OF 41 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:401921 CAPLUS
DOCUMENT NUMBER: 117:1921

LANGUAGE: English

AB A new type of HPLC stationary phase contg. thymine deriv. was successfully prepd. It was found to give selective sepn. of nucleic acid bases and several purine derivs., such as caffeine and theophylline. The retention behavior and elution order of the solutes were interpreted in terms of mol. structure.

IT **919-30-2DP**, reaction products with silica gel and subsequently with thymineylpropionic acid-hydroxymagnesiumcarboximide reaction product

KL: SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)

(prepn. and use of, as stationary phase for sepn. of nucleic acid bases)

RN 919-30-2 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

IT **73-40-5, Guanine**

RL: ANST (Analytical study)

(sepn. of, from nucleic acid bases by HPLC on thymine bonded silica gel)

RN 73-40-5 CAPLUS

CN 6H-Purin-6-one, 2-amino-1,3-dihydro- (9CI) (CA INDEX NAME)

H₂N H
 N N

N NH

O

197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

ATTENTION NUMBER: 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

INVENTION NUMBER: 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

TITLE: 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

INVENTOR: 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

PATENT ATTORNEY: 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

SOURCE: 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

DOCUMENT TYPE: 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

LANGUAGE: 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

FAMILY APP. NUM. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4. 197 ANSWER 1-4.

IF 01072054	A2	19890316	JP 1988-141451	19880608
SI 709316	B4	19950726		
AT 130176	E	19970319	AT 1988-305217	19880604
US 5240602	A	19930831	US 1991-682393	19910402
US 5241278	B1	20010626	US 1999-261450	19990303

PRIORITY APPLN. INFO.:

US 1987-58988	A	19870608
US 1988-187765	A	19890429
US 1990-485866	B1	19930223
US 1991-682393	A3	19910402
US 1993-70554	B1	19930601
US 1995-397414	B1	19950301
US 1996-714523	B1	19960916
US 1997-949448	B1	19971014

AB Chromatog. materials (SBX, SBXYL, and SBXY' [S = substantially noncompressible solid support; B = binding group; X = substantially nonionic hydrophilic spacer; Y = coupling group; Y' = activated coupling group; L = affinity ligand] are provided. The solid support is silica gel or other metal oxide or ceramic. A process for chromatog. sepn. and detection of target substance with the title material is also provided. The chromatog. material is substantially free of nonspecific adsorption and is stable at high pH. PEG 600-propylsilica (40 μ m) was prepd. and activated with carbonyldiimidazole. The activated silica gel was reacted 1st with hydrazine, then with periodate-oxidized ovalbumin, and packed into a HPLC column. Serum from a rabbit immunized against ovalbumin was loaded onto the column. Following removal of nonbound serum components by washing, IgG was eluted with 2% HOAc contg. 0.15M NaCl. Identify of the eluted, purified IgG was confirmed by SDS-PAGE and Western blot anal.

IT 13883-39-1D, reaction products with silica gel

RL: ANST (Analytical study)

(in prepn. of stationary phase for affinity chromatog., pH stability in relation to)

RN 13883-39-1 CAPLUS

CN Silane, (3-bromopropyl)trichloro- (6CI, 8CI, 9CI) (CA INDEX NAME)

CI

CI CI (CH₂)₃ Br

CI

13 ANST 13883-39-1D 13883-39-1D 13883-39-1D 13883-39-1D

13883-39-1D 13883-39-1D 13883-39-1D 13883-39-1D

13883-39-1D 13883-39-1D 13883-39-1D 13883-39-1D

13883-39-1D 13883-39-1D 13883-39-1D 13883-39-1D
Manufacture of silanized polyethylene, methacrylate-ethylene glycol dimethacrylate copolymers and their use as a support for affinity chromatography methods in medicine and pharmaceutical industry

13883-39-1D 13883-39-1D 13883-39-1D 13883-39-1D

13883-39-1D 13883-39-1D 13883-39-1D 13883-39-1D

13883-39-1D

of these plates (for sugars, guanosine, and its phosphates) is not inferior when compares with Merck com. plates NH2-F254. Ribonucleotides, deoxyribonucleotides and impurities of nucleoside N bases and their phosphates were sepd. by a mobile phase contg. AcOH and EtOH.

IT 73-40-5, Guanine 73-40-5D, Guanine, nucleotides

EL: ANST (Analytical study)

sepn. of, by TLC, aminopropyltrimethoxysilane-modified silica gel for)

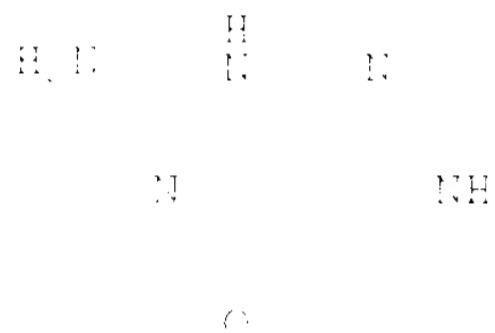
RN 73-40-5 CAPLUS

CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9C1) (CA INDEX NAME)



RN 73-40-5 CAPLUS

CN 6H-Purin-6-one, 2-amino-1,7-dihydro- (9C1) (CA INDEX NAME)



IT 919-30-2, Aminopropyltriethoxysilane

EL: ANST (Analytical study)

silica gel-modified with, for nucleic acid component sepn., by TLC)

RN 919-30-2 CAPLUS

CN 1-Propylamine, 3-triethoxysilyl - (9C1) (CA INDEX NAME)



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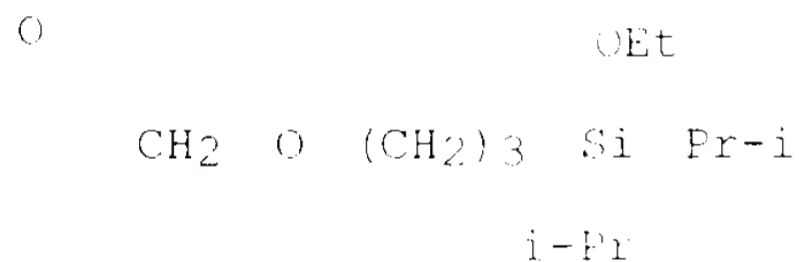
1975 46085 1975 46085 1975 46085 1975 46085 1975 46085

1975 46085 1975 46085 1975 46085 1975 46085 1975 46085

1975 46085 1975 46085 1975 46085 1975 46085 1975 46085

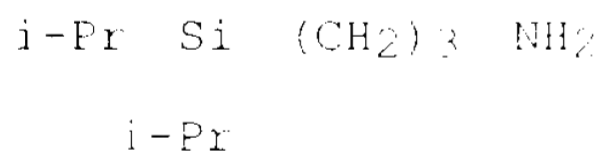
characterized by chromatog. and spectroscopic techniques. These new bonded phases are significantly more stable toward hydrolysis than previous bonded-phase silicas; retention and column efficiency are comparable. The first type uses bifunctional (or "bidentate") silanes contg. one reactive atom on each of two silicon atoms that connect through a bridging group such as -O- or -(CH₂)_n-. The second type uses a monofunctional silane with at least two bulky groups (e.g., isopropyl) on the silane silicon atom. These bulky groups provide steric protection to the Si-O-Si bond formed between the silane and the surface of the silica. The new bonded-phase silicas exhibit highly reproducible gradient elution high-performance sepns. of peptides and proteins with low-pH mobile phases.

IT 116698-58-9DP, reaction products with silica gels
117559-36-1DP, reaction products with silica gels
RL: ANST (Analytical study); PREP (Preparation)
(prepn. and characterization and evaluation of, as stationary phases in HPLC for anal. with low-pH mobile phases)
RN 116698-58-9 CAPLUS
CN Silane, ethoxybis(1-methylethyl)[3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



RN 117559-36-1 CAPLUS
CN 1-Propanamine, 3-[ethoxybis(1-methylethyl)silyl]- (9CI) (CA INDEX NAME)

OEt



145 ANSWER 37 OF 41 TABLE COPYRIGHT 1991 BY
ACCESSION NUMBER: 1991:4-40-1-1111
DOCUMENT NUMBER: 1-1111
TITLE: Multiple antigen presentation on a solid support in
heterogeneous immun assays and affinity separation
INVENTOR(S): Lai, Hui-Lien; Phillips, Yana, Esther; Fong, Yuh-Lin;
Edward Wayne
PATENT ASSIGNEE: E. I. du Pont de Nemours and Co., Inc., USA
SOURCE: EMI, Int. Appl., No. 11.
CLASS: B10X
DOCUMENT TYPE: Patent
LANGUAGE: English

AT 1987-103692	E	19920215	AT 1987-103692	19870314
ES 1987-103692	T3	19930201	ES 1987-103692	19870314
JP 1987-59117	A2	19871005	JP 1987-59117	19870316
JP 1987-59117	B4	19921013		
DK 1987-1367	A	19870919	DK 1987-1367	19870317

PRIORITY AFFILIATION INFO.:

US 1986-841107	19860318
EP 1987-103692	19870314

AB CrO₂ particles are modified to have desirable characteristics as solid support materials for immunoassays or for bioaffinity seps. The particles are surface reduced and coated with protective silica and silane layers. Such treatment prevents hydrolytic degradn. of the particles, and provides a functionalized coat. CrO₂ particles were surface reduced in an aq. soln. of NaHSO₃, then treated with NaAlO₂ and Na₂SiO₃ soln. contg. Na borate, pH 4. The particles were coated with 3-aminopropyltriethoxysilane. The chromate leaching test of these particles gave an absorbance of 0.02 at 372 nm. The particle settling time was 8 min. In an immunoassay for the detn. of TSH, a serum sample was mixed with an enzyme-labeled anti-TSH .beta.-subunit monoclonal antibody (MAb), then mixed with a slurry of particles carrying anti-TSH .alpha.-subunit MAbs. The immune complexes formed were removed magnetically. The complexes were resuspended in a substrate soln. and incubated, the absorbance of the quenched soln. was read. Human serum contg. 0, 5, 25, and 50 .mu.U TSH/mL gave an absorbance of 0.1135, 0.1829, 0.485, and 0.794, resp.

RT 919-30-2, 3-Aminopropyltriethoxysilane 5089-72-5

RL: ANST (Analytical study)

(surface-reduced magnetic chromium dioxide particles coated with silica and, for immunoassays and bioaffinity seps.)

RN 919-30-2 CAPLUS

CU 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OE1

EtO Si (CH₂)₃ NH₂

OE1

RN 919-30-2 CAPLUS

TN 1,3-Ethanediamine, N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

OE1

EtO Si (CH₂)₃ NH (CH₂)₃ NH₂

OE1

RT 919-30-2 CAPLUS

TN 1,3-Ethanediamine, N-[3-(triethoxysilyl)propyl]- (9CI) (CA INDEX NAME)

CU 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 24510	A1	19871111	EP 1987-510204	19870415
R: BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
WO 8706976	A1	19871118	WO 1987-EP234	19870502
W: AU, BR, DK, FI, JP, NO, US				
AU 8775839	A1	19871201	AU 1987-75838	19870502
JP 01500131	T2	19890126	JP 1987-503871	19870502
FI 8705770	A	19871230	FI 1987-5770	19871230
NO 8800010	A	19880210	NO 1988-10	19880104
DK 8800006	A	19880217	DK 1988-6	19880104

PRIORITY APPLN. INFO.: EP 1986-510201 19860505
 WO 1987-EP234 19870502

AB A waveguide coated with single-stranded probe nucleic acids and carrying an internally reflected wave signal is contacted with an analyte soln. contg. denatured test DNA or RNA and fluorescent marker dye. Analyte nucleic acid with sequences homologous to that of the probe polynucleotide will hybridize therewith with concomitant binding of the fluorescent dye to the resultant duplex structures. Fluorescence resulting from the interaction of the wave signal at the waveguide/analyte interface with the signal generating centers created within the space probed by the evanescent component of the wave signal is detected and provides useful information on said sequences homologous to that of the probe nucleic acids. A plate waveguide with poly(dA) affixed (prepn. described for oligo dC on aminopropyl glass plate) was affixed into a flow cell and a base-line signal was obtained with buffer in the cell. Both ethidium bromide and poly-det were mixed and injected into the flow cell and the reaction was monitored. In a control, only ethidium bromide was added. The monitoring reaction was effectively immediate and only specific intercalation between double-stranded DNA was detected.

1T 919-30-2, 3-Aminopropyltriethoxysilane

RL: ANST (Analytical study)

(grafting of, on waveguide, for nucleic acid attachment, nucleic acid detn. in relation to)

RN 919-30-2 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

FI

EP 24510

FI

147 ANSWER 84 OF 41

APPLICATION NUMBER: 19870415

DOCUMENT NUMBER: 19870415

DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Macroporous glass treated with γ -aminopropyltriethoxysilane and then with 1:1 copolymer of N-vinylpyrrolidone and acryloyl chloride was prepd. and used for sepn. of influenza, Sendai, etc. viruses. The sorbent possesses low absorption activity but had higher stability and better hydrodynamic properties than commonly used sorbents (Sephacrose 4B, porous glass). The sorbent can be used repeatedly without regeneration (>30 times) and could be regenerated by washing with 1:1 iso-PrOH-H₂O, when the chromatog. properties are totally restored. The inert sorbent was also used for the sepn. of Escherichia coli tRNA from E. coli ribosomes.

17 919-30-2, γ -Aminopropyltriethoxysilane

PL: ANST (Analytical study)

glass treatment with, copolymer modification after, for gel chromatog. support prepn.)

RI 919-30-2 CAPLUS

CI 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OE+

RI CH₃-CH₂-NH₂

OE+

L41 ANSWER 40 OF 41 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 1988:31015 CAPLUS

DOCUMENT NUMBER: 103:31015

TITLE: Alkoxy silanes for the preparation of silica based stationary phases with bonded polar functional groups

AUTHOR(S): Engelhardt, Heinz; Orth, Peter

CONTRIBUTOR: Angew. Phys. Chem., Univ. Saarlandes, Saarbruecken, Fed. Rep. Ger.

SOURCE: J. Liq. Chromatogr. (1988), 11(8-9), 1929-1944

CODEN: JLCHE3; ISSN: 0144-3919

DOCUMENT TYPE: Journal

LANGUAGE: English

AB For prepn. of polar bonded phases with alkoxy silanes, an activator and a catalyst are required to achieve surface coverages comparable to those obtained with chlorosilanes. For activation a monolayer of H₂O on the silica surface is sufficient. The most active catalyst in many cases is pyridine, however, triethylamine with a small amount of pyridine is better. Silanes with γ -hydroxypropyl groups are more active than those with γ -hydroxybutyl groups. The present work demonstrates the effect of the nature of the alkoxy group on the surface and the effect of the nature of the alkoxy group on the surface. The experiments in the present work show that the nature of the alkoxy group and the nature of the alkoxy group are important factors in the preparation of polar bonded phases.

17 35141-36-7D, reaction products with silica

PL: ANST (Analytical study, unclassified); ANST (Analytical study)

silica, reaction products, for stationary phase prep. chromatog.

RI CH₃-CH₂-NH₂

CI 1-Propanamine, N,N,N-trimethyl-3-(trimethoxysilyl)-, and its salts (9CI) (CA INDEX NAME)

OMe

MeO Si (CH₂)₃ N⁺Me⁺

OMe

● Cl⁻

IT 919-30-2D, 3-Aminopropyltriethoxysilane, reaction products with silica

RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(as stationary phases, for liq. chromatog.)

RN 919-30-2 CAPLUS

CN 1-Propanamine, 3-(triethoxysilyl)- (9CI) (CA INDEX NAME)

OEt

EtO Si (CH₂)₃ NH₂

OEt

IT 71-30-7, Cytosine 73-40-5, Guanine

RL: ANT (Analyte); ANST (Analytical study)
(sepn. of, from nucleobases, chem.-bonded silica stationary phases for
cation-exchange liq. chromatog.)

RN 71-30-7 CAPLUS

CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

O $\begin{array}{c} \text{H} \\ \text{N} \end{array}$ NH₂

N

RN 73-40-5 CAPLUS

CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)

H₂N $\begin{array}{c} \text{H} \\ \text{N} \end{array}$ H

H NH

RESTATE SOURCE: E. M. Gross Chem. Lab., Duke Univ., Durham, NC, 27706, USA
SOURCE: ACS Symp. Ser. (1986), 292(Chromatogr. Sep. Chem.), 210-25
CODEN: ACSMC8; ISSN: 0097-6156

DOCUMENT TYPE: Journal
LANGUAGE: English

AB The use of boronic acid-substituted, amine-modified silica gel stationary phases for the HPLC sepn. of saccharides and nucleosides under neutral conditions was studied. Five stationary phases were prepd. using Partisil 10. The capacity factors for selected saccharides and nucleosides on columns packed with these stationary phases are given. The presence of residual amine groups in the surface bound, silica-based phenylboronic acid phases lowers the apparent pKa of the acid groups. This surface buffering effect permits boronate-saccharide complexation to occur at much lower pH values than is typically the case.

IT 102712-18-5D, reaction products with silica gel

RL: ANST (Analytical study)

as stationary phases for high-performance liq. chromatog. sepn. of nucleosides and saccharides)

RN 102712-18-5 CAPLUS

CH Boronic acid, [4-[[[3-(ethoxydimethylsilyl)propyl]amino]methyl]phenyl]- (9CI) (CA INDEX NAME)

CEt

CH₂ NH (CH₂)₃ Si Me

Me

HO B

OH

IT 73-40-5

RL: ANT (Analyte); ANST (Analytical study)

high-performance liq. chromatog. of, on boronic acid-substituted amine-modified silica gel stationary phases)

RN 73-40-5 CAPLUS

CH 4-B-Imid-5-one, 2-amino-1,7-dihydro- (9CI) (CA INDEX NAME)

H

H

H

H

NH

919-30-2 18306-79-1

ANST (Analytical study)

OEt

EtO Si (CH₂)₃ NH₂

OEt

RN 18306-79-1 CAPLUN

CN 1-Propanamine, 3-(ethoxydimethylsilyl)- (9CI) (CA INDEX NAME)

OEt

Me Si (CH₂)₃ NH₂

Me

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